REMARKS

Claims 1, 3-15, 17, 23-26, 28-35, 40-41, 47, 49-55, 57-85 are pending in the application, with claims 1, 17, 29, 30, 32, 33, and 59 being independent. Applicants acknowledge the allowance of claims 1, 3-15, 23-26, 28, 30-33, 35, 40, 41, 47, 49, 51-55, 57, and 48 and the indication of allowable subject matter in claims 60, 63, 65, 66, 69, and 70-77. Applicants note that the action indicates that claim 64 is both allowable if re-written in independent form and rejected under 35 U.S.C 103 – clarification is requested.

The second set of claims numbered 71-75 and 77 have been renumbered 78-83, and the claims previously number 78 and 79 have been renumbered 84 and 85, respectively. Applicants submit that claims 78-83 are in condition for allowance.

The Examiner has rejected claims 65 and 70 asserting that the phrase "other portions of the transition arm" is indefinite. Applicants respectfully traverse this rejection. Claims 65 and 70 recite "the transition arm including a drive member coupled to the rotary member ...while other portions of the transition arm..." It is clear from the language of the claims that "other portions of the transition arm" refers to portions of the transition arm other than the drive member.

The Examiner has rejected independent claim 17, and dependent claims 34 and 78 (renumbered as claim 84) as anticipated by U.S. Patent No. 5,927,560 (Lewis). Reconsideration and allowance of these claims are respectfully requested in light of the following remarks.

The Examiner's rejection states:

> In Lewis et al., Figure 1, a dispensing pump is disclosed with a plurality of pistons (13, 44) housed within a non-rotating cylinder (12, 26). The first cylinder (26) has a fluid inlet (38 for cylinder 26) and a metered fluid outlet (18). Since the second cylinder (12) is a closed supply chamber of epoxy, the outlet (18) can be construed as an inlet with a suction stroke of the piston (13). The cylinders have different diameters. Since the pistons are controlled by different means, one by servomotor and the other by pneumatics, and because both pistons are capable of

gradually or completely ejecting epoxy, it is inherent that each piston stroke in [sic] independently adjustable from the other.

However, Lewis does not describe or suggest a method of metering fluids that includes at least the claimed "selecting different cylinder diameters to adjust the volume of metered fluid" (claim 17).

Lewis describes a dispensing pump 10 including a supply syringe 12 of epoxy that provides epoxy under pressure to a pumping chamber 14 of the pump so as to fill the pumping chamber 14 with epoxy. The epoxy is provided under pressure by a driving piston 13. A stepped plunger 44 is used to meter the epoxy of pumping chamber 14 through a dispensing nozzle 18. The Examiner's rejection equates the sidewall 26 of pumping chamber 14 and the supply syringe 12 with the recited cylinders and stepped plunger 44 and piston 13 with the recited plurality of pistons.

As Lewis merely discloses that typical volumes for supply syringe cartridge 12 are in the range of about 3 to 180 cubic centimeters (col. 3, lines 59-61), and that the pumping chamber 14 has an internal volume 30 (col. 4, lines 9-11), the Examiner is apparently relying on the depiction of the pump in Fig. 1 of Lewis for support for the assertion that "the cylinders have different diameters." Reliance on the figure of Lewis for support for the cylinders having different diameters is improper. Furthermore, there is nothing in Lewis, inherent or otherwise, about selecting different diameters for the pumping chamber and the supply syringe to adjust the volume of metered fluid, as claimed.

Therefore, independent claim 17, and claims 34 and 84 that depend from it, are allowable over Lewis for at least the foregoing reasons.

The Examiner has rejected independent claims 29 and 59, and dependent claims 61, 62, 67, 68, and 78 (renumbered as claim 84, though apparently incorrectly listed in this rejection) as obvious over U.S. Patent No. 5,931,645 (Goto) in view of U.S. Patent No. 4,449,444 (Forster), and dependent claims 50, 64, and 79 (renumbered as claim 85) as obvious over Goto in view of Forster and further in view of WO 99/144471 (Sanderson). Reconsideration and allowance of these claims are respectfully requested in light of the following remarks.

The Examiner's rejection states in part:

> The device [of Goto] differs from the claimed invention in that there is no explicit teaching that a central axis of the first cylinder is spaced from a central axis of the actuating mechanism a distance that differs from a spacing of a central axis of the second cylinder form the central axis of the actuating mechanism. In the case of swash plate compressors, the radial distance of the cylinder from the central axis of the swash plate implies a larger piton [sic] stroke. It is well known in the art to use a plurality of pistons at different axial distances from the central axis of the swash plate, or actuator, in order to achieve a discharge of fluid, or a plurality of fluids at different rates or volumes. The use of a plurality of pistons simply increases the capacity of the compressor. Forster in Figure 1 teaches such a compressor[1] where an outer group of pistons (25) is used in conjunction with an inner group of pistons (19). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Goto et al. device by incorporating inner and outer groups of piston cylinders, as taught by Forster, in order to in order to [sic] achieve a discharge of fluid, or a plurality of fluids at different rates or volumes. The use of a plurality of pistons simply increases the capacity of the compressor. In such a combination it is inherent that central axis of the first cylinder (say an outer cylinder) is spaced form a central axis of the actuating mechanism a distance that differs form a spacing of a central axis of the second cylinder (say an inner cylinder) from the central axis of the actuating mechanism.

Contrary to the Examiner's assertion, there is no motivation or suggestion in the references for the proposed combination. Goto describes a multistage compressor for compressing a refrigerant for an automobile air conditioning system. The compressor includes a first set of three cylinder bores 7 having a larger diameter, and a second set of three cylinder bores 8 having a smaller diameter. The first and second cylinder bores 7 and 8 slidably receive first and second sets of pistons 29 and 30 so that the first and second sets of cylinder bores 7 and 8 and the pistons 29 and 30 define first and second sets of compression chambers. The first set of compression chambers provide a low pressure stage, and the second set of compression chambers provide a high pressure stage. In operation, refrigerant gas within the low pressure compression chamber is compressed to an intermediate pressure and directed to the high pressure compression chamber where the gas is compressed to the higher discharge pressure. Goto

[1] Forster is directed to a pump not a compressor.

further describes that a tilting mechanism may be provided between the swash plate 25 and the drive shaft 24 to change the angle of the swash plate 25 relative to the drive shaft 24 so that the capacity of the compressor or the flow rate discharged from the compressor can be changed. (Goto at col. 3, lines 10-15.)

Forster is directed to an axial piston pump for producing two output streams which can be independently regulated both as to size and pressure. The pump includes a first set of cylindrical holes 21 and pistons 19 on a smaller pitch diameter for creating the first output stream, and a second set of cylindrical holes 26 and pistons 25 located on a larger pitch diameter for creating the second output stream.

The Examiner's position is that it would be obvious to modify the Goto et al. device by incorporating inner and outer groups of piston cylinders, as taught by Forster, in order to achieve a discharge of fluid, or a plurality of fluids, at different rates or volumes. However, Goto already describes a tilting mechanism for changing the capacity of the compressor or the flow rate discharged from the compressor. Therefore, there is no motivation to modify the device of Goto to incorporate inner and outer groups of piston cylinders in Goto to achieve a result that Goto already achieves. Furthermore, as Goto is directed to a compressor for compressing a refrigerant and delivering a single output stream of the refrigerant to an automobile air conditioning system, there is no motivation to modify the device of Goto to permit the discharge of a plurality of fluids. The examiner has provided no support for why one skilled in the art would want to have more than one output stream in the compressor of Goto.

Therefore, for at least the reasons discussed above, applicants submit that claims 29 and 59, and their dependent claims 61, 62, 67, 68, are patentable over Goto in view of Forster.

Furthermore, Sanderson does not overcome the deficiencies in the Goto and Forster combination discussed above. Therefore, dependent claims 50, 64, and 85 are patentable over Goto in view of Forster and Sanderson.

Applicant asks that all claims be allowed in view of the foregoing remarks.

Attorney's Docket No.: 09850-013001

Enclosed is a Petition for Extension of time and the required fee. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: July 23, 2004

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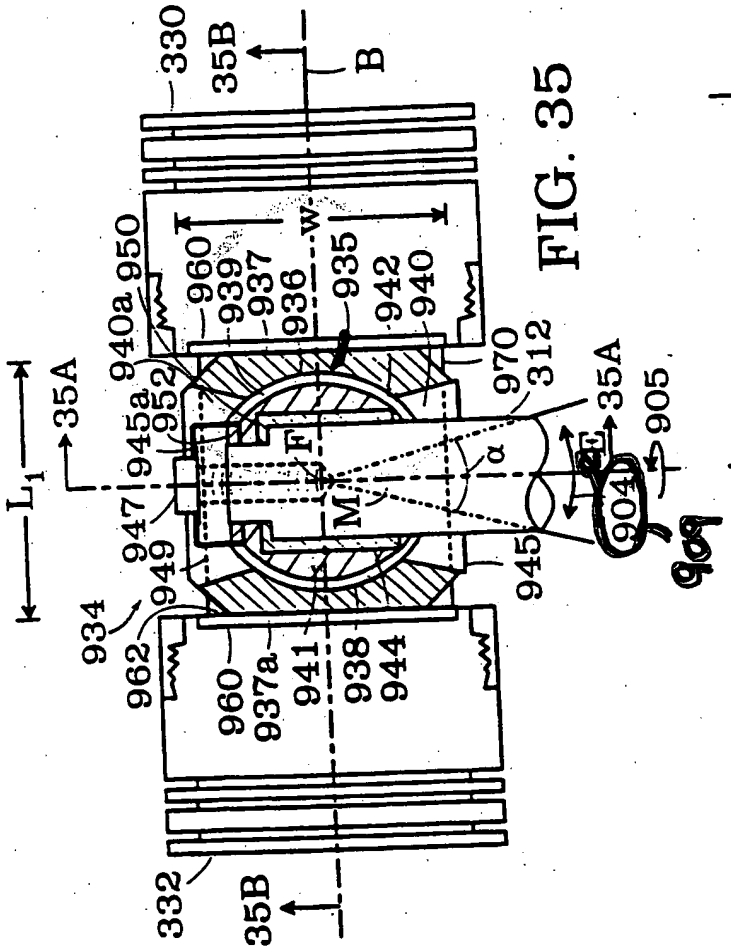

FIG. 35

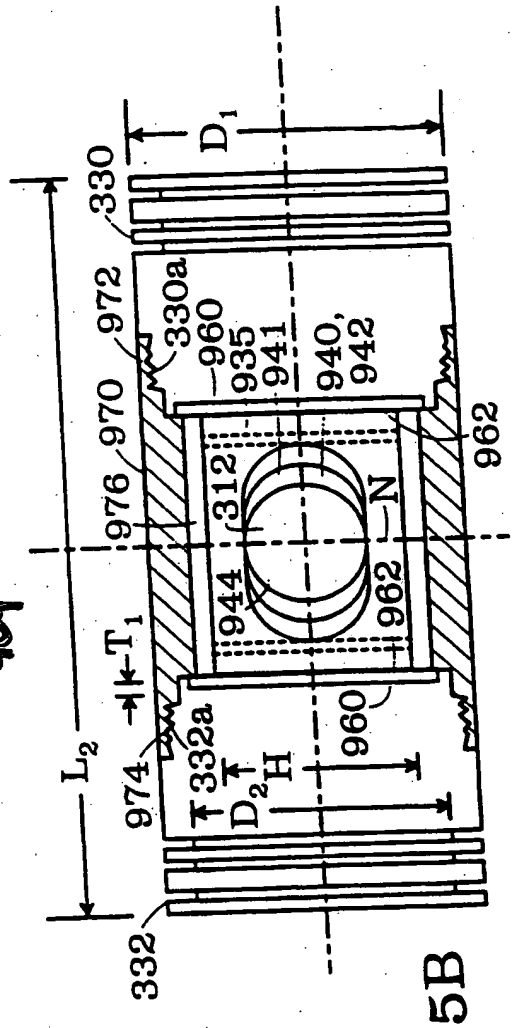

FIG. 35B

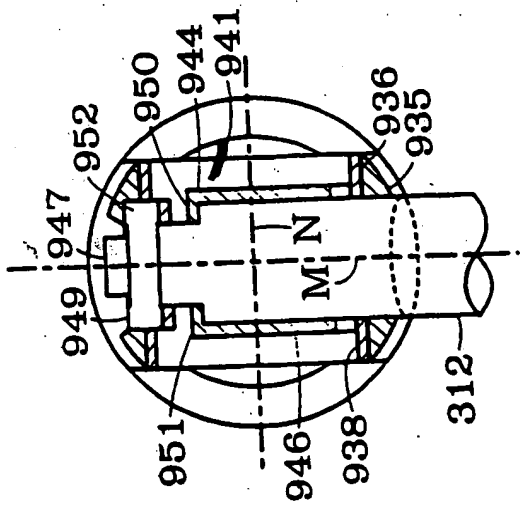

FIG. 35A